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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: K. TAMURA, et al

Serial No.: 10/769,805

Filed: February 3, 2004

For: STORAGE SYSTEM AND STORAGE CONTROLLER

**PETITION TO MAKE SPECIAL
UNDER 37 CFR 1.102(d) and MPEP. §708.02, VIII**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

September 14, 2004

Sir:

1. Petition

Applicants hereby petition to make this application **Special**, in accordance with 37 CFR §1.102(d) and MPEP 708.02, VIII. The present invention is a new application filed in the United States Patent and Trademark Office on February 3, 2004 and as such has not received any examination by the Examiner.

2. Claims

Applicants hereby represent that all the claims in the present application are directed to a single invention. If upon examination it is determined that all the claims presented are not directed to a single invention, Applicants will make an election without traverse as a prerequisite to the granting of special status.

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3. Search

Applicants hereby submit that a pre-examination search has been made by a professional searcher, (a copy of which is attached), in the following classes and subclasses:

<u>Class</u>	<u>Subclass</u>
710	38
711	100, 112, 114, 117, 122
714	5, 6

4. Copy of References

A listing of all references found by the professional searcher is provided by a Form PTO-1449 and copies of the references and the Form PTO-1449 are submitted as part of an Information Disclosure Statement (IDS) filed on even date.

5. Detailed Discussion of the References and Distinctions Between the References and the Claims

Below is a discussion of the references uncovered by the search and cited in the IDS filed on even date that appear to be most closely related to the subject matter encompassed by the claims of the present application, and which discussion particularly points out how Applicants' claimed subject matter is distinguishable over those references. All other references uncovered by the search and cited in the IDS filed on even date are **not** treated in detail herein.

a. Detailed Discussion of the References

U.S. Patent No. 5,504,882 (Chai et al. '882), assigned to International Business

Machines Corporation discloses a dynamically alterable hierarchical arrangement of storage device controllers. Multiple storage device controllers may be provided; each storage device controller may be adaptable to emulate a storage device. Storage device controller 14 may be coupled to multiple host processor 10 and input ports 32 of a second group of storage device controllers 40 (see figure 3, column 2, lines 55-56 and 58-59, and column 4, lines 44-45 and 63-66).

U.S. Patent No. 6,073,209 (Bergsten '209), assigned to Ark Research Corporation discloses a storage controller, which might be coupled to more than one other storage controller. Storage controller 3-1 appears to be connected to a number of other storage controllers, 3-2 through 3-M (see figure 2 and column 5, lines 18-22).

U.S. Patent No. 6,295,578 (Dimitroff et al. '578), assigned to Compaq Computer Corporation provides for a *Cascaded Removable Media Data Storage System*. Discussed are removable media data storage system controller units placed in a cascade. A first media data storage system controller is linked directly to the host or server computer network, and two removable media data storage system controllers may be attached to the back-end channel of the first controller. One or more removable media data storage units may be connected to each of the two second-level media data storage system controllers (see figure 3 and column 5, lines 3-5, 13-15, and 17-22).

U.S. patent application publication 2003/0221077 (Ohno et al. '077), assigned to Hitachi, Ltd. discloses storage control apparatuses designed for use in direct connection to a host computer. A first communication path may be connected between

the host computer and the first storage control apparatus. A second communication path may be connected between first and second control apparatuses. When an input/output request is judged not to have been handled by the first storage control apparatus, first storage control apparatus may transmit a second data input/output request to second storage control apparatus through second communication path. Second storage control apparatus 20 may receive data input/output request from first storage control apparatus 10 through network 51 (see figure 1 and paragraphs 12, 14, 15, 17, 18, and 73).

b. Distinctions Between the References and the Claims

The present invention as recited in the claims filed are not taught or suggested by any of the above noted references whether taken individually or in combination with each other or in combination with any of the other references now of record.

The present invention as now recited in the claims is directed to a storage system constructed by communicably connecting a first storage controller and a second storage controller and performing data processing according to a request from a host device, wherein the first controller has at least one or more logical units accessed by the host device, and at least one or more intermediate memory hierarchies arranged so as to connect this logical unit and at least one or more memory devices, and at least one of the intermediate memory hierarchies is connected to a memory device arranged in the second storage controller.

The above described features of the present invention, particularly a first controller with one or more logical units accessed by the host device, and at least one or more intermediate memory hierarchies arranged so as to connect this logical

unit and at least one or more memory devices where at least one of the intermediate memory hierarchies is connected to a memory device arranged in the second storage controller.

6. Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

☒ the Credit Card Payment Form (attached) for \$130.00.

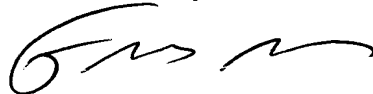
☐ charging Account _____ the sum of \$130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (1309.43490x00).

Respectfully submitted,

Antonelli, Terry, Stout & Kraus, LLP



Frederick D. Bailey
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FDB/sdb
Enclosures